In the claims

1 - 24. (Cancelled)

25. (Currently Amended) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, said spacer further comprising an inner bolt, wherein said bolt has a head, which head locks against at least one end of said tube, to prevent axial expansion of said tube, wherein said head comprises at least one ~~protrusions~~ protrusion extending from said head toward said tube, to engage said tube.

26 - 31. (Cancelled)

32. (Currently Amended) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other

along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer comprises a plurality of segments, each segment defining one or more extensions that extend from said spacer; and

wherein said segments comprises at least two segment types, each segment type defining extensions that extend in different directions relative to said tube , wherein said two segment types ~~comprises~~ comprise a horizontal segment defining two extensions that extend along a line and a segment defining four extensions that extend at about ±45° to said two extensions.

33 – 58. (Cancelled)

59. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein a trans-axial cross-section diameter of said expanded geometry varies along an axis of said expanded geometry; and

wherein said cross-section is rectangular and wherein said cross-section diameter increases along said expanded geometry axis.

60 – 68. (Cancelled)

69. (Currently Amended) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, said spacer further comprising a ratchet mechanism to maintain said spacer in an expanded configuration.

70 - 71. (Cancelled)

72. (Currently Amended) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, said spacer further comprising at least one portion of

said spacer that prevents axial contraction of said spacer, wherein said at least one portion comprises a strip that folds and forms a thickness between two opposing sides of said spacer, preventing the opposing sides from meeting.

73. (Currently Amended) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, said spacer further comprising at least one protrusion on at least one of said extensions, to prevent collapsing of said extension.

74. (Currently Amended) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, said spacer further comprising at least one protrusion on at least one of said extensions, to interlock said at least two extensions.

75 – 82. (Cancelled)

83. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein at least one of said extensions comprises at least four legs that are coupled by an extension top.

84. (Cancelled)

85. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other

along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein a plurality of annealed locations are provided on said spacer to assist in expansion of said spacer.

86 – 92. (Cancelled)

93. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is formed of a combination of distinct zones of different materials.

94 – 95. (Cancelled)

96. (Currently Amended) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer ~~comprises~~ is formed of a super-elastic material, which is super-elastically deformed by the extension deformation.

97. (Canceled)

98. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is adapted to axially deform only under axial forces of over 20 Kg force.

99. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is adapted to axially deform only under axial forces of over 30 Kg force.

100. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is adapted to axially deform only under axial forces of over 50 Kg force.

101. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is adapted to axially deform only under axial forces of over 70 Kg force.

102. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is adapted to axially deform only under axial forces of over 90 Kg force.

103. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is adapted to remain expanded in a vertebra of an active human, when placed with the tube axis perpendicular to a spine of said human.

104 - 115. (Cancelled)

116. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of the extensions is designed to carry greater stress and has an increased strength over another extension, wherein said spacer is coated with a bio-active coating.

117. (Original) A spacer according to claim 116, wherein said bio-active coating retards bone ingrowth.

118. (Original) A spacer according to claim 116, wherein said bio-active coating promotes bone ingrowth.

119 – 219. (Cancelled)

220. (Previously presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein said spacer comprises at least one portion that prevents axial contraction of said spacer, the at least one portion including a pair of tabs that abut when the spacer is axially contracted or a strip that folds and forms a thickness between two opposing sides of said spacer, preventing the opposing sides from meeting.

221. (Previously presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other

along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein said spacer comprises at least one protrusion on at least one of said extensions, to prevent collapsing of said extension.

222 - 225. (Cancelled)

226. (Previously Presented) An expandable spacer, comprising:

an axial tube having a surface provided along an initial contour, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two extensions, such that when said tube is axially compressed, said extensions extend out of said initial contour and define a geometry of an expanded spacer;

wherein when the tube is axially compressed, the at least two extensions have respective peaks farthest radially from the tube, the peaks of the extensions being separated from each other along the tube axis by portions of said surface situated radially inwards of said peaks in the axially compressed configuration;

wherein said spacer is adapted for support of two vertebral plates on either side of the spacer, and

wherein at least one of said extensions comprises at least three legs that are coupled by an extension top, wherein at least one of said extensions comprises at least four legs that are coupled by a extension top.

227 - 232. (Cancelled)